Chapter:1 INTRODUCTION

1.1. Importance of Topic

Risk Assessment is a crucial parameter of Project Management. It enhances management capabilities and reinforces the degree of project's success. Whereas the Kalri Baghar(KB) Feeder Canal Lining, a billion dollars project with major contributions in federally-funded The Greater Karachi Bulk Water Supply Scheme(K-iv), is of diverse implications. The project is to be completed within a short span of 3 years. The time sensitivity made the project involve a large number of laborers and machinery, and neglect the urban disturbance associated with its execution. Moreover, a construction project of such a big scale in the locality provides a great opportunity of polishing one's capabilities by making contributions in it. All aforementioned factors conclude to the need of carrying out Risk Assessment of the project from the platform of Mehran UET, Jamshoro in order to make contributions to its success.

1.2. Brief Review of Literature

The 38-mile long Kalri Baghar Canal Lining is Rs 39 billion cost project. The canal has a total of 189 plus Reduced Distances (RDs). It is a three-year time project. Each year, 20 RDs are supposed to be lined. The project was conceived by the Sindh irrigation department in order to conserve water in KB Feeder so that it could be provided for K-IV. Conservation of water was likely through this project and out of which around 500 cusecs of water would be provided to K-IV for meeting drinking water needs of the provincial capital.

Risk assessment in project management is the process of identifying, analyzing, and evaluating potential events or conditions that may adversely affect a project's objectives, such as scope, schedule, cost, or quality. The risks associated with canal lining could be technical, geotechnical, environmental, social and operational. A case study of Lower Bari Doab Canal Improvement Project (LBDCIP) highlighted the lining project risks which include unstable canal banks, disruption of water table due to seepage reduction and urban disturbance. This study helped to identify the research gapes in KB Feeder Canal Lining Project.

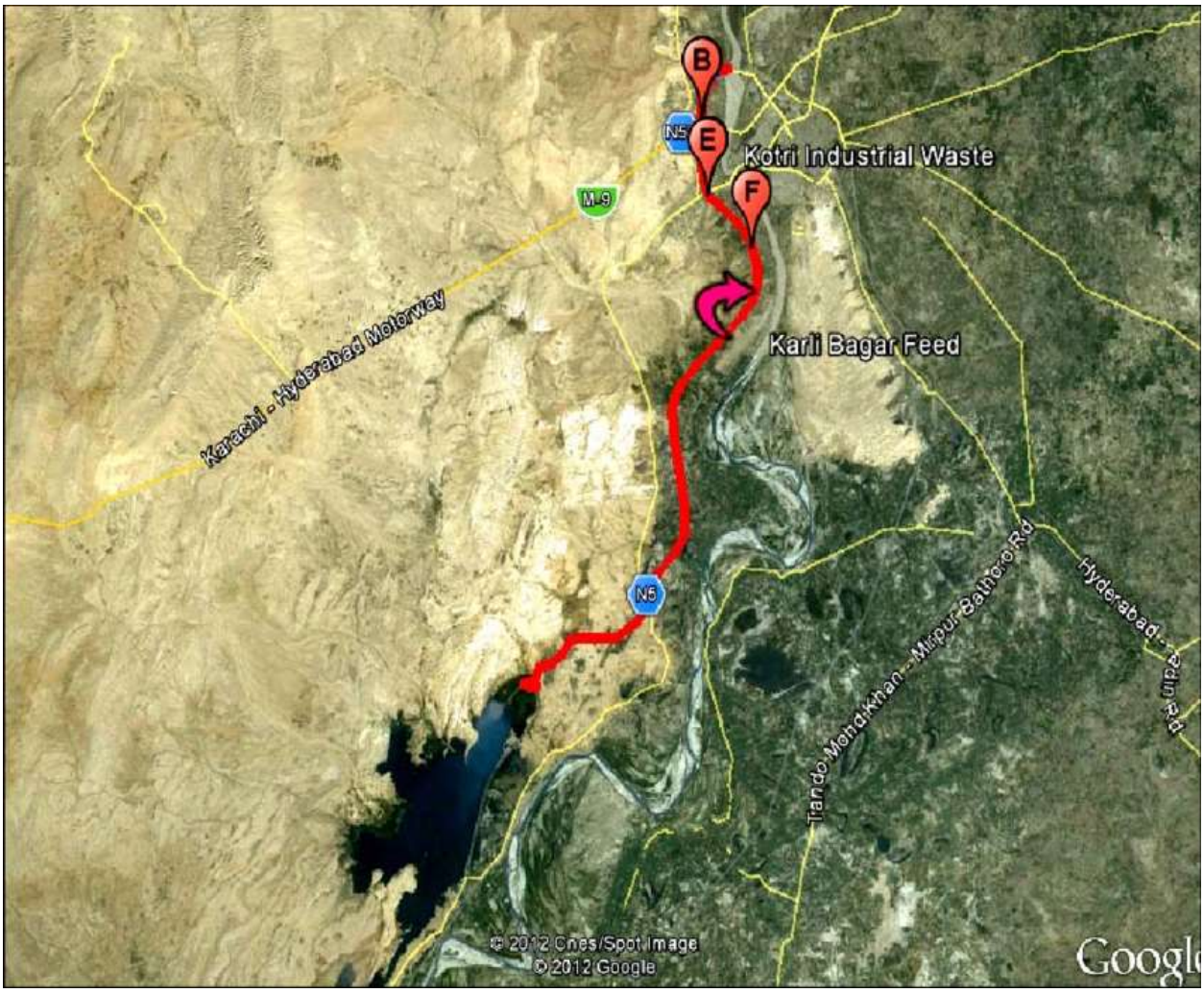

Figure 1: Kalri Baghar Canal Satellite View

1.3. Research Gap

Civil Engineering projects in Sindh, specifically in Irrigation Engineering, mostly lag behind in Risk Management practices. This negligence often leads to delays, accidents and, sometimes, irreversible failures. The KB Feeder Canal Lining Project is no exception. Moreover, since the feeder in the major source of water supply to Karachi, the project's maximum success is crucial for K-iv scheme. This originates the need of carrying out a thorough Risk Assessment of the project. Additionally, it has been observed that the first phase of the project caused severe Urban Disturbance in the region of Jamshoro, leading to a long delay in academic activities of Mehran UET, Jamshoro. In future, the resume in the project can once again severely disrupt the activities of universities and other stakeholders. At last, many graduates are observed to be complaining about the non-compatibility of engineering courses with real-time situations. Given a huge

ongoing project in Jamshoro, it is necessary to make analysis which addresses such concerns. These three gaps in existing literature helps in developing research objectives of this thesis.

1.4. Objectives

1) **To carryout risk assessment of Kalri Baghar Feeder Canal Lining Project**
    a) **To identify the risks in ongoing execution process of KB Feeder Canal Lining Project**
    b) **To work out a mitigation strategy for ongoing and future similar projects.**
    c) **To prepare a risk register for efficent risk management.**

2) **To analyze construction related urban disturbance in the project and investigate possible mitigation techniques.**
3) **To make comprehensive comparison between the project management approach developed from this thesis and real-time management challenges.**

1.5. Contributions

The study proves to be a positive effort to make effective contributions in an ongoing project. It paves a way for interest development within undergraduate students in the success of ongoing projects. Moreover, the study is a comprehensive guide to analyze the wider prospect of risks associated with the project. It analyses potential disturbance to activities of MUET Jamshoro and other stakeholders in the wake of resumption of the project. Moreover, the study proves to be a guide to compare the theoretical courses with real time scenario.

1.6. Organization of Chapters

The thesis is structured into five key chapters, each contributing to the comprehensive study on Risk Assessment of KB Feeder Canal Lining Project. The first chapter provides an overview of the research, including significance, background, research gapes, objectives, and contributions of the study. The second chapter reviews the literature of the previous research. The methodology and data collection for this research is covered in chapter 3. Analysis will be covered in chapter 4. Chapter 5 will come up with the results and provide recommendations for future research and strategies to carryout effective Project Management.